PROJECT TEACHING: PUPILS PLANNING PRACTICAL ACTIVITIES. I

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Divisions of the discussion.—The following discussion of project teaching will be divided into seven sections: I. Definition; II. Recent examples; III. Historical development; IV. Values; V. Limitations; VI. Technique; VII. Conclusions.

I. DEFINITION OF PROJECT TEACHING

Pupils planning practical[1] activities.—The central element in project teaching is the planning by pupils of some practical activity, something to be done. Hence, a pupil-project is any unit of activity that makes the pupils responsible for such practical planning. It gives them practice in devising ways and means and in selecting and rejecting methods of achieving some definite practical end. This conception conforms with the dictionary definition of a project as "something of a practical nature thrown out for the consideration of its being done" and with the dictionary statement that "to project" means "to contrive, to devise, to scheme." Furthermore, it describes with considerable precision a specific kind of improved teaching that has become common in progressive experimental schools since 1900.[2]

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[1] The word "practical" is here used as the opposite of "theoretical" according to the following definitions from *Webster's Dictionary:* "*Practical.* 1. Of or pertaining to practice or action. 2. Capable of being turned to use or account; useful in distinction from *ideal* or *theoretical;* as *practical* chemistry." "*Theoretical.* Pertaining to theory; depending on, or confined to, theory or speculation; speculative; terminating in theory or speculation; not practical; as *theoretical* learning; *theoretic* sciences."

[2] Perhaps the briefest definition of a project for our purposes would read as follows: *A pupil-project is a unit of practical activity planned by the pupils.* The author has revised the use of the term "project" in his *General Methods of Teaching in Elementary Schools* (Ginn & Co.) to conform to this more precise meaning and has added in the revised edition (1922) a brief chapter on project teaching along the lines of this article.

II. RECENT EXAMPLES OF PROJECT TEACHING

Historical construction projects. Variations in pupils' planning.—We may illustrate project teaching, as well as the pertinency of our definition, by three similar pictures of projects in medieval history. In these cases three different fifth-grade classes of the University of Chicago Elementary School all had the same practical problem of illustrating certain phases of medieval life; yet the outcomes varied greatly owing to the variations in the pupils' planning. The nature of the pupil-activities in developing such a project is suggested by the following description:

The castle and fortified town shown in [Fig. 1] were constructed out of cardboard by a fifth-grade class which was studying the Feudal Age in European history. The children had read the stories of King Arthur and other knights, as well as descriptions of life in town and castle. On the basis of this reading, they planned an imaginary mediaeval town and castle as shown in the drawings on the blackboard. They then constructed the walls and buildings from cardboard coated with a preparation of flour and salt to resemble stone. Certain parts were colored with coffee, water colors, etc.

The fortified town shown on the left contained one building for each type of craftsman or merchant, the tailor, the metal worker, the importer of baled goods, etc. In the public square was shown a mediaeval fair. The crowded condition of a mediaeval town was brought out by the narrow streets and overhanging second stories of the houses. On the right is the castle of the baron who was lord of the region. Between the town and the castle are the feudal lands, owned by the baron, and cultivated in strips according to mediaeval practices.

Too small to be seen in the picture is a procession of knights proceeding from the castle to the town to attend the fair. On the blackboard in the left-center are sketches of historical costumes in which the little dolls representing the characters were dressed.

The next fifth-grade class which worked on this project constructed a historical castle instead of an imaginary one. They chose the castle of Kenilworth and from books of travel, encyclopedias, etc., obtained the details of its construction. Later they wrote a play centering in a visit of Queen Elizabeth to Kenilworth and the return of Drake from one of his voyages. As a piece of co-operative work in English the class wrote the following poem concerning their work:

OUR CASTLE IN THE SAND-PAN

Within our sand-pan straight and long,
We've built an ancient castle strong;

FIG. 1.—Fifth-grade construction project in medieval history to be contrasted with Figs. 2 and 3 to illustrate the influence of pupil-planning.

FIG. 2.—Another fifth-grade project in medieval history. Contrast the castle in this picture with the one in Fig. 1.

FIG. 3.—Another town-and-castle project. The same problem for the pupils as in Fig. 1; note the different outcomes from the pupils' practical planning.

It has some battlemented towers
That guard the lovely ladies' bowers;
A moat that's deep and wide around,
And green grass growing on the ground.

We now have built a mighty keep,
Also a hall where knights do sleep.
We've built a wall around the grotto
Which we have carved with Leicester's motto.

Our Kenilworth is fair and gay
With banners floating all the day,
For good Queen Bess in royal array
Is coming in her barge this day.
All loyal hearts these means employ,
To show how full they are of joy.[1]

A composition project.—The writing of this poem illustrates project teaching in English composition and helps us to realize that not all projects involve manual construction. In this particular case this fifth-grade class had been discussing what contribution they should make to the school periodical which was edited and printed by the pupils. They decided to write an account of their "Castle in the Sand-Pan." Each pupil wrote independently, and then the class listened to several of the compositions. One pupil had written his in verse form, and the class decided to tinker this composition and publish it. The outcome was the poem presented.

Subdivided labor on a class project.—The part played by the subdivision of labor on a class project may be illustrated by Figure 2. The children who constructed this scene had read Howard Pyle's *King Arthur* and had listened to Scott's description of the tournament scene in *Ivanhoe*. After considerable discussion and planning, a committee of three children constructed in plasticine the castle shown at the left. For its plan they followed the large illustration shown hanging in Figures 1 and 3. Other children constructed the moat, the roadway, and the inclosure for the tournament. Many children were engaged in constructing the pavilions on the right for the king and queen and the lords and ladies. The costumes

[1] S. C. Parker, *General Methods of Teaching in Elementary Schools*, pp. 8–10. Boston: Ginn & Co., 1919.

for the doll characters called for considerable knowledge and ingenuity. The periods for manual training and for history for about one week centered in this project.

How a teacher attacks a class project.—The manner in which an experienced project teacher attacks the actual development of a project by a class is charmingly suggested by the following quotation from an account by Miss Jennie Hall[1] of the activities of a fourth-grade class in preparing a dramatization of a certain portion of the story of Achilles to be presented to the Francis W. Parker School at the morning assembly. The description reads in part as follows:

With a theme that so enlisted feeling, we should surely get vigorous, creative acting. So I suggested[2] making a play. As always, the idea was hailed with joy.

Many times before this I had had experience with plays so sliced up into acts that drawing the curtain had occupied more time than the dialogue. My excuse to myself had been that that was the way the children had planned it. But I had now begun to think that it was as much my business to supervise[3] children's play-making as their number work, and not to let their untrained habits run riot there any more than among the multiplication tables. So I took a short cut and said: "Now, let's not try to tell the whole story of Achilles in our play, but just his getting angry and getting over it." The suggestion was adopted.

Now attention was focused upon a small area of the story, and some fulness of delineation was possible. There is always, I suppose, a good deal of vagueness and delay in the attack. When your boat lies beached, it takes much shouting and running about to get it launched. "What is going to happen first?" was our starting question. "The quarrel," was the class

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[1] Miss Hall was one of the most skilful and valuable teachers in America's experimental schools. She was author of a notable series of children's history stories, including "Viking Tales," "Our Ancestors in Europe," "The Story of Chicago," etc. She died in 1921.

[2] This statement illustrates the fact that some of the best educative pupil-projects, perhaps most of them, originate in some suggestion by the teacher. This parallels situations in social life where projects are frequently suggested by one person, but planned and carried out largely by others.

[3] This paragraph shows how the teacher may be a very strong directing force in the development of a pupil-project and yet leave large scope for active pupil-planning and -scheming, as will appear in the later paragraphs. This again parallels situations in social life where the director of a business or other enterprise may exert a strong guidance in the various projects of the organization, but at the same time give his subordinates considerable scope for initiative, scheming, and planning.

answer. Now, to be sure, not all the children at once cried one answer in one voice. But the same thing happened that we have all seen occur in a large social group—be it a class of children or a political convention. Some original genius ventured a suggestion. This released the gears in other brains, and more suggestions came. Analytical minds saw difficulties and advantages; opinions were modified, and new suggestions made, until one came that brought a glow and nod of satisfaction from the majority of the class. That one we adopted, and we then moved forward at my command, for creation must go on with a dash, while the fife and drums are playing. So any piece of composite work . . . . hints at dead and wounded ideas and lost causes along the line of march. Generally it is worth while to stop and argue out a moot point, but if there is a sign that the interest of the majority is flagging, up standards and forward! and leave the malcontents to clamor. "What shall happen next ? and next ?" So we worked out our plot-quarrel, meeting to discuss how to get Achilles back, Achilles' refusal to return, death of Patroclus, reconciliation of Achilles and Agamemnon. The children pondered the plot with delight. The climax perfectly satisfied them. Achilles and Agamemnon should shake hands and say, "Let bygones be bygones," and we could forgive Achilles and be happy.

This planning was all done in one day. The next morning, I saw that the children were hungry for acting, and that they must not be put off with further planning of details. I chose the most enthusiastic volunteers for Achilles and Agamemnon and Calchas. They came up to act and flatly failed—could not think of a word to say. Then I asked, "Well, what could they say?" We heard any speech that anybody had to offer, picked another troupe and tried again. Next day there was less eagerness about volunteering to act, and someone explained: "You get up there and you don't know what to say." So we thereupon set about planning the speeches of the scene.[1]

How pupils discuss and organize a project.—A concrete notion of what the pupils actually say and do during their planning of a project may be derived from the following stenographic report of the discussion by a fourth grade that was preparing an assembly exercise in the Francis W. Parker School on the poet Blake whose poems and life they had been studying. After the class had discussed the desirability of preparing the exercise the conversation continued as follows:

Robert G.: If it is just going to be Blake's poems, I think we should tell something about him.

[1] *Second Yearbook of the Francis W. Parker School,* pp. 29–30. Chicago: Francis W. Parker School (330 Webster Avenue), 1913. $0.45. The best publication on assembly projects.

Teacher: How many like that idea? (Many hands.)

Teacher: What things shall we tell about him? (Teacher writes topics on the board as they are suggested.)

Child: Where he was born.

Child: What he was interested in.

Child: His visions.

Teacher: What visions?

Child: When he saw the child in the cloud.

Child: The tree full of angels.

Child: Fairy's funeral.

Child: The men he saw go to the altar—the apostles.

Miriam: One time he was sitting on the seashore, and saw the kings and all the pages, and the people going along the shore.

Karl: And once when his brother died, he thought he saw his soul go up to heaven.

Mary: How he came to write his poems and how he learned to engrave.

Charles: You would not call it sculpture if he engraved things.

Teacher: Who will set Charles right?

Charles: A sculptor makes statues from marble and an engraver carves great stones.

Teacher: No.

Further planning and discussion followed, and certain children volunteered to prepare to talk upon the various topics outlined on the board. The next day the lesson proceeded as follows:

(On the board was the list of points planned the day before, with names of children volunteering to talk on each topic.) *Teacher:* Yesterday we began to plan our morning exercises about Blake. Without my saying anything, let the children come in the order in which their names appear on the board. And remember that you must connect with one another, so the story will be complete.

Several children then gave the talks they had prepared, after which a critical discussion of their performances began as follows:

Teacher: What do you think? Does that do what you want done for the story? I am not asking you to choose the people who seem to you to do it best, but whether you think it is right for the story of Blake's life. Or are there things left out, or is it not pleasant the way it is planned?

Child: I don't like the way some of them said he saw his brother's soul clapping his hands.

Teacher: But that is what Blake said.

Robert G.: I think someone ought to tell about his engraving.

Mary: I thought you only wanted the drawing. I can change it.

Teacher: It is not true, Mary, that he did most of his drawing before he was married. He went on all his life. All the famous book drawings he made later in life. And Fred, you gave me the impression that Blake did not know very much.

Frederick: Well, he did not go to school, did he?

Teacher: No, but he studied and was an educated man.

Frances: He said he got his education from reading. He read all the time.

Teacher: What do you think about what René had to say, John?

John: I don't think it was quite enough.

Child: I think he ought to tell more dates, when he started engraving and some things.

Teacher: How many were interested in what René said? (A few hands.) How many were not? (Many hands.)

Teacher: Why was it that what he said was not interesting?[1]

This critical discussion with further planning continued on the second day until satisfactory schemes were devised. On the third and fourth days the aspiring performers were further tried out in the classroom. Finally, the children who were chosen to present the exercise to the morning assembly of the school rehearsed once in the assembly hall.

Over two hundred projects in National Society Yearbook.—One of the most suggestive collections of examples of project teaching is the *Twentieth Yearbook of the National Society for the Study of Education, Part I.*[2] This contains brief accounts of 285 examples of teaching, many of which involve practical planning by pupils. The great variety of opportunities for such practical planning in progressive school work is suggested by the following titles of a few of the projects described in this yearbook: "A Kindergarten Circus," "A Doll Sale," "The 'We Like It' Cafeteria," "Dramatization of 'The Hardy Tin Soldier,'" "An Imaginary Trip Around the World," "A Celebration for Columbus Day," "A Picture Museum," "Publishing an Annual," "Helping the Humane Society," "A School Magazine," "A Cleanliness Campaign," "Raising Potatoes," "Cleaning a Vineyard and Planting Trees," "Forming a Mercantile Company,"

Conclusions of recent examples.—Such examples as we have given in this section should serve to give the reader a concrete

[1] *Op. cit.*, pp. 19–26.

[2] Bloomington, Illinois: Public School Publishing Co., 1921. $1.30 postpaid.

notion of the extensive and varied examples of project teaching to be found in American schools. In the next section we shall further clarify our ideas of project teaching by examples showing how provision for such practical planning by pupils has developed historically.

III. HISTORY OF RECENT OPPORTUNITIES FOR PRACTICAL PLANNING BY PUPILS

A. GENERAL DEVELOPMENTS: THE "NEW EDUCATION" OF 1880–1905

Slogans of the "new education"; "self-expression," etc.—The movement to give pupils practice in practical planning is one outcome of the "new education" which was widely discussed in America during the last decades of the nineteenth century. The principal slogans of this "new education" were "self-realization," "self-expression," "education through expression," "initiative," "co-operation," etc. Its advocates spoke and wrote of it as the "new education" on frequent occasions. Thus as early as 1883 we find Colonel F. W. Parker using the term, while in 1900 we find Professor Dewey referring to it with capitals and quotation marks in the following words:

It is to this, then, that I especially ask your attention: the effort to conceive what roughly may be termed the "New Education" in the light of larger changes in society. Can we connect this "New Education" with the general march of events? If we can, it will lose its isolated character. . . . . It will appear as part and parcel of the whole social evolution.[1]

Froebelian origin of the "new education." Teachers College, Colonel Parker, and Dewey.—There were at least two well-defined centers of this "new educational" practice and propaganda. One was Teachers College of New York City, the parent institution of which was established in 1880 and which became affiliated with Columbia University in 1898. The other was the School of Education of the University of Chicago, which developed in 1901 from the combining of the earlier schools of Colonel Francis W. Parker and Professor John Dewey. The common source of suggestion for the "new education" in these schools seems to have been the productive theories (not the formalized practices) of

[1] John Dewey, *The School and Society*, p. 4. Chicago: University of Chicago Press, 1900.

Froebel (1782–1852) who founded the kindergarten movement in Germany in 1837.[1] These theories will be presented later in a quotation from Dewey.

Teachers College.—The important part played by this Froebelian element in the early activities of Teachers College is suggested by a quotation from a series of resolutions adopted by its board of trustees in 1886. The institution was then known as the Industrial Education Association. In setting forth their policy they included the following resolution relative to the kindergarten:

> That the fact is generally recognized among those best informed on the subject of education, that the kindergarten system produces the best results with young children. The Association claims that the system which combines industrial training with the usual and necessary branches is nothing more than a development of the kindergarten theory: a system found wise for young children, modified and adapted to children of more mature growth.[2]

Colonel Parker.—The part played by Froebelianism in Colonel Parker's work is clearly indicated by the following quotation from one of his writings as early as 1883:

> Froebel said that the principles he discovered and advocated, when thoroughly applied, would revolutionize the world; and he was right. In the kindergarten is the seed corn and germination of the New Education and the new life. . . . . One and all of the true principles of education are applied in the kindergarten; these principles should be applied (simply changing the application to adapt it to different stages of growth) through all education.[3]

Dewey.—Finally, the influence of the Froebelian theory in the experimental elementary school maintained by Dewey at the University of Chicago from 1896 to 1901 is indicated in these words taken from his discussion of the kindergarten department of his school:

> One of the traditions of the school is of a visitor who, in its early days, called to see the kindergarten. On being told that the school had not as yet

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[1] For an account of Froebel's two most valuable principles, namely, (1) education through motor expression and (2) education through social participation, see S. C. Parker's *History of Modern Elementary Education*, pp. 441–47 and 470–84. Boston: Ginn & Co., 1912.

[2] *Teachers College Record*, I (January, 1900), 14.

[3] Francis W. Parker, *Talks on Teaching*, p. 159. New York: E. L. Kellogg & Co., 1883.

established one, she asked if there were not singing, drawing, manual training, plays and dramatizations, and attention to the children's social relations. When her questions were answered in the affirmative, she remarked, both triumphantly and indignantly, that that was what she understood by a kindergarten, and she did not know what was meant by saying that the school had no kindergarten. The remark was perhaps justified in spirit, if not in letter. At all events, it suggests that in a certain sense the school endeavors throughout its whole course—now including children between four and thirteen—to carry into effect certain principles which Froebel was perhaps the first consciously to set forth. Speaking still in general, these principles are:

1. That the primary business of the school is to train children in co-operative and mutually helpful living. . . . .

2. That the primary root of all educative activity is in the instinctive, impulsive attitudes and activities of the child, and not in the presentation and application of external material. . . . .

3. That these individual tendencies and activities are organized and directed through the uses made of them in keeping up the co-operative living already spoken of; taking advantage of them to reproduce on the child's plane the typical doings and occupations of the larger, maturer society into which he is finally to go forth; and that it is through production and creative use that valuable knowledge is secured and clinched.

So far as these statements correctly represent Froebel's educational philosophy, the school should be regarded as its exponent.[1]

Three movements from the "new education": motivation, problem-solving, and project teaching.—Out of the general enthusiasm for improved methods which characterized these discussions of the "new education" of 1900, there have developed from time to time specific enthusiasms for some special phase of teaching. For our present purposes it is instructive to note and define three of these, namely, motivation, problem-solving, and project teaching.

Motivation.—The central idea in the recent discussions of motivation seems to be that a pupil secures valuable training through clearly conceiving some interesting end toward which he directs his present activity and from which the latter derives interest. The writers on motivation have emphasized the desirability of well-defined pupil-purposes and whole-hearted interests as educative factors. Motivation thus becomes one phase of the doctrine of interest, and its adequate discussion would grow out of the

[1] *Elementary School Record,* I (June, 1900), 142. Published also in the revised edition of Dewey's *The School and Society,* p. 111. Chicago: University of Chicago Press, 1915.

consideration of human instincts and motives as found in such chapters as those by James and Thorndike on human instincts and in such books as McDougall's *Social Psychology*.

Problem-solving.—Training pupils in problem-solving has been most adequately treated in its theoretical aspects in Dewey's *How We Think*.[1] According to Dewey, problems originate in "something unexpected, queer, strange, funny or disconcerting" (p. 74), or in "some perplexity, confusion or doubt" (p. 12). The pupil has a "genuine problem," "in whatever perplexes and challenges the mind so as to make belief uncertain" (p. 9). A problem is thus seen to be "a question involving doubt" (as defined by Webster), and the specific discussion of training pupils in problem-solving would be based on the discussions of training in reasoning and scientific thinking provided by eminent psychologists. Clearly the issues and concepts involved in this discussion are largely distinct from those of motivation or interests.

Project teaching.—On the other hand, project teaching, when conceived as the pupil-planning of practical activities, is clearly a subdivision of the larger topic, problem-solving. In project teaching, the pupil is always confronted with some problem, but a problem of a *practical*[2] character, as distinguished from merely *theoretical* or *speculative* problems. Thus, a practical project problem in history might be "How shall we dramatize the life of Washington and his troops at Valley Forge?" while a theoretical problem would be "Who was the greater general, Washington or Frederick the Great?" In another connection, I have given a full discussion of problem-solving in general with examples of both theoretical and practical problems being solved by pupils.[3] Our further discussion of *practical* project problems in the next article will supplement that discussion and show the development of project methods in manual training, assembly exercises, the kindergarten, geography, history, and agriculture.

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[*To be concluded*]

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[1] D. C. Heath & Co., 1910.

[2] See definitions of *practical* and *theoretical* on page 335.

[3] *Elementary School Journal*, XXI (September–December, 1920). See also the author's *Types of Elementary Teaching*, chapter x. Boston: Ginn & Co. in press, 1922.